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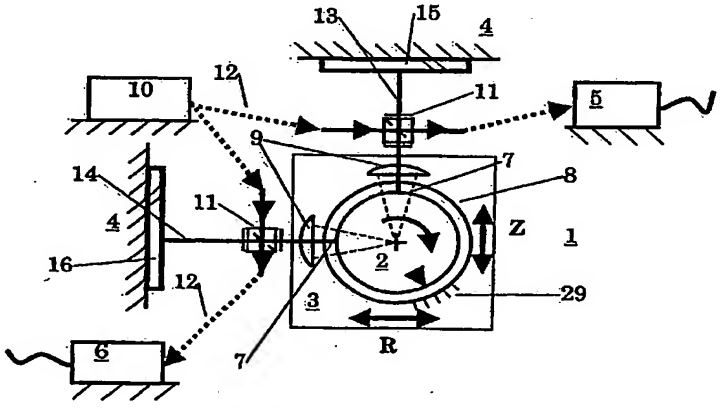
(54) Title: FREE-FORM OPTICAL SURFACE MEASURING APPARATUS AND METHOD




(57) Abstract: A surface measuring apparatus for measuring a surface shape of an element comprises a measurement frame (4) comprising a mount for mounting the element to be measured, a stage (3) comprising a rotatable device (2), the stage being movable in at least a first direction relative to said measurement frame, and a contactless distance measurement device (5,6) for measuring in said first direction a distance between said measurement frame and a predetermined measurement surface (7) provided on said rotatable device. The apparatus further comprises a second distance measurement device (2) for measuring in a second direction a second distance between said device and a selected position on a surface of an element mounted relative to said measurement frame and a rotation measurement device (29) for measuring an angle of rotation between said first and second direction. In this way, aspheric or free-form surfaces of optical elements can be measured easily in closed loop without introducing abbe-errors.

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